



U.S. Department
of Transportation
**Research and
Special Programs
Administration**

400 Seventh St., S.W.
Washington, D.C. 20590

**IAEA CERTIFICATE OF COMPETENT AUTHORITY
SPECIAL FORM RADIOACTIVE MATERIALS
CERTIFICATE NUMBER USA/0458/S, REVISION 3**

This certifies that the source described has been demonstrated to meet the regulatory requirements for special form radioactive material as prescribed in the regulations of the International Atomic Energy Agency¹ and the United States of America² for the transport of radioactive materials.

1. Source Identification - Neutron Products, Inc. Model NPRP 450-10-B.
2. Source Description - The source authorized by this certificate is a cylindrical, double encapsulation constructed of 316L stainless steel with fusion welded endcaps. The outer capsule is 451 mm (17.8 in) in length and 9.7 mm (0.382 in) in diameter. The source shall be constructed in accordance with Neutron Products, Inc. Drawing No. A-200355, Revision A (attached), or Neutron Products, Inc. Drawing No. A-200355, Revision B (attached).
3. Radioactive Contents - Source capsules manufactured in accordance with Neutron Products, Inc. Drawing No. A-200355, Revision A, shall contain not more than 445 TBq (12,000 Ci) of Cobalt-60 in the form of metal pellets. Source capsules manufactured in accordance with Neutron Products, Inc. Drawing No. A-200355, Revision B, shall contain not more than 500 TBq (13,500 Ci) of Cobalt-60 in the form of metal pellets.
4. Quality Assurance - Records of Quality Assurance activities required by Paragraph 310 of the IAEA regulations¹ shall be maintained and made available to the authorized officials for at least three years after the last shipment authorized by this certificate. Consignors and consignees in the United States exporting or importing shipments under this certificate shall satisfy the requirements of Subpart H of 10 CFR 71.
5. Expiration Date - This certificate expires February 28, 2007.

¹ "Regulations for the Safe Transport of Radioactive Material, 1996 Edition (Revised), No. TS-R-1 (ST-1, Revised)," published by the International Atomic Energy Agency (IAEA), Vienna, Austria.

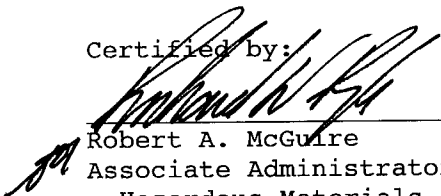
² Title 49, Code of Federal Regulations, Parts 100 - 199, United States of America.

(- 2 -)

CERTIFICATE USA/0458/S, REVISION 3

This certificate is issued in accordance with paragraph 804 of the IAEA Regulations and Section 173.476 of Title 49 of the Code of Federal Regulations, in response to the petition and information dated May 29, 2001 submitted by Neutron Products, Inc., Dickerson, MD, and in consideration of other information on file in this Office.

Certified by:



Robert A. McGuire
Associate Administrator for
Hazardous Materials Safety

FEB 21 2002

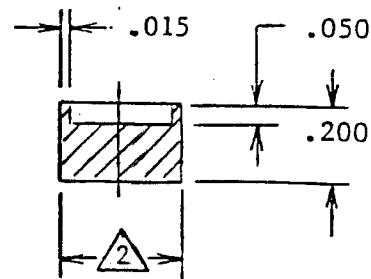
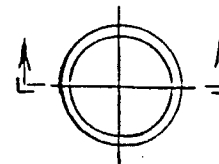
(DATE)

Revision 3 - Issued to approve the sources against the 1996 IAEA regulations, and to extend the expiration date.

ENGRAVE
YEAR OF MFG.

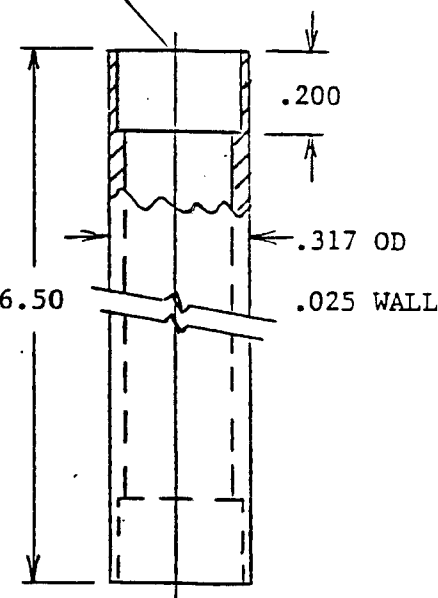
NOTES:

1. STAINLESS STEEL TUB AND ENDCAPS 316L
2. LIGHT PRESS FIT INTO TUBING C'BORE
3. SPACE FOR THERMAL EXPANSION
4. ENGRAVING .093 HIGH X .005 - .010 DEEP
5. STAINLESS STEEL SPACERS 300 - SERIES



END CAPS (2 REQ)

C'BORE .287 DIA
(2 PLCS)



TUBING

INNER ENCAPSULATION

17.777

NPI Co60

END CAP DWG A-200031

ENGRAVE

FUSION WELD
END CAPS (4)

INNER ENCAPSULATION

COBALT RODS
.245 DIA X .996 OR .498 Lg.
WITH STAINLESS STEEL
SPACERS AS APPROPRIATE

OUTER ENCAPSULATION
TUBING .382 OD
X .025 WALL
X 16.877 Lg.

ENGRAVE SERIAL No.
SIDE & FACE (UNDERLINED)

3-10-95 0 B 50 L E E S E E R E E

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES

TOLERANCES

ANGULAR DECIMAL FRACTIONAL

DRAWN ED 11-20-90

DESIGN FS 11-20-90

CHECKED *FS*

neutron products inc

Dickerson, Maryland

TITLE
RADIATION PROCESSING

SOURCE

NPRP 450-10-B

APPROVED

FS

ISSUED DATE

11/21/90

SIZE

A

DWG. NO.

200355

REV.

A

SCALE

2X

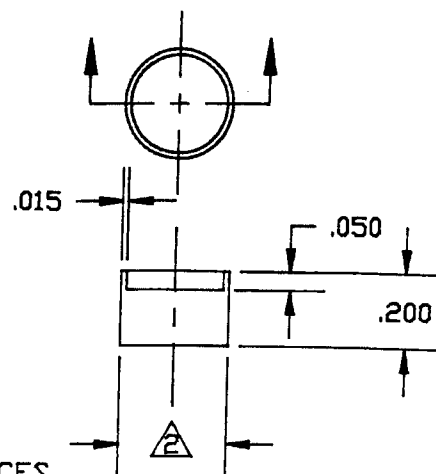
SHEET

216/92

ENGRAVE YEAR
OF MFG.

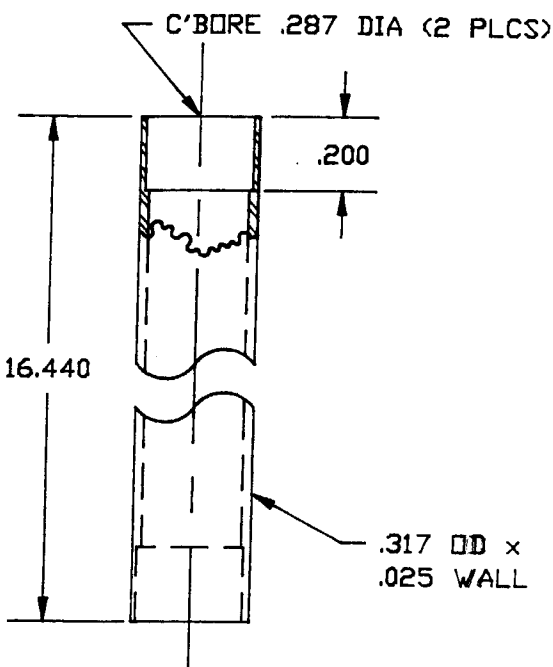
NOTE:

1. STAINLESS STEEL TUBING AND END CAPS - 316L
2. LIGHT PRESS FIT INTO TUBING C'BORE
3. SPACE FOR THERMAL EXPANSION
4. ENGRAVING .093 HIGH x .005 - .010 DEEP
5. STAINLESS STEEL SPACERS 300 SERIES
6. DIMENSIONS ARE NOMINAL SEE DWG C-200359 (COMPONANTS) FOR TOLERANCES AND ENGRAVING DETAILS

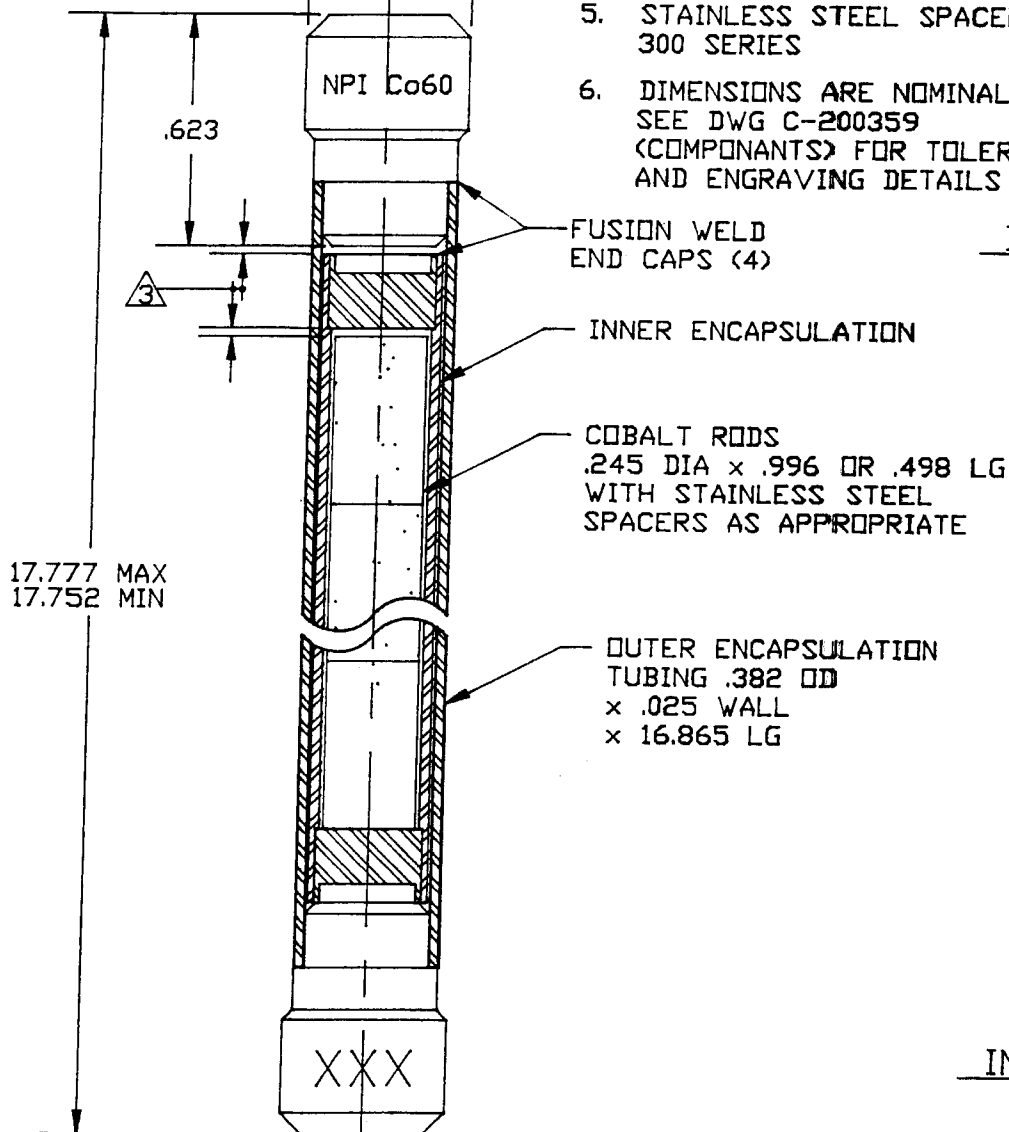


**END CAP
INNER ENCAPSULATION**

(2 REQ'D)



**TUBING
INNER ENCAPSULATION**



REVISED 3-10-95 BY JG-CHECKED BY F.S.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES			NEUTRON PRODUCTS INC		
TOLERANCES ANGULAR DECIMAL FRACTIONAL ±3° .XX=±.01 .XXX=±.005			TITLE RADIATION PROCESSING SOURCE NPRP 450-10-B		
DRAWN ED 11-20-90 DESIGN ED 11-20-90 CHECKED FS			APPROVED FS	ISSUED DATE 11/21/90	REV B
			SIZE A	DWG. NO. 200355	SHEET 1 OF 1
			SCALE 2X		